



ESM technicians Staff Sgts. John Hockman (front) and Jonathan Dingus align bolts for the placement of the primary heat shield on the right platypus deck.

Platy-masters

Exhaust shop Airmen: Jacks of many trades, experts of one

by Airman 1st Class
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With coalition aircraft still providing close-air support to troops on the ground in Iraq, the threat of an attack by heat-seeking missiles is something pilots in the area of responsibility must be on the look out for.

Helping keep F-117A Nighthawk pilots safe in such a hostile environment is a small shop where being “cool” is the number one goal.

The 49th Maintenance Squadron Exhaust System Maintenance section inspects and repairs all “platypus” heat shields and heat-absorbing bricks. They also spear head the removal and replacement of aircraft engine exhaust ducts and tailpipes. Unlike other aircraft that give off a large heat signature, Master Sgt. Douglas Boffman, section chief, said the F-117 remains virtually undetectable by enemy radar because of the ESM shop.

“Our shop’s main focus is on

the stealth’s low-observable technology,” Sergeant Boffman said. “We help keep the plane’s infrared signature low with scheduled maintenance to aircraft’s tailpipes. Because of the low IR signature, the aircraft doesn’t give off a “hotspot” for enemy heat-seeking missiles to pick up on.”

A C-5A Galaxy cargo aircraft suffered a surface-to-air missile strike Jan. 8, 2004, when it took off from the Baghdad International Airport. The missile locked on to the heat signature of the Air Mobility Command aircraft. Where the cargo plane’s engine heat is exposed, the F-117 makes use of low-observable technology.

Combined with radar-absorbent material, the aircraft’s low-observable technology also incorporates the large, yet complex exhaust system area on the rear of the stealth, known as the platypus deck, that keeps the jet cool in flight, lowering the chances of it being detected by radar. Staff Sgt. Jonathan Dingus, 49th Maintenance Squadron ESM technician,



Senior Airman Billy Turner, 49th Maintenance Squadron ESM technician, applies screws to a new vapor boot. The vapor boot is used to seal any exhaust that exits the engine and is replaced every 300 flying hours.

said it’s the people who really keep the jet from being shot down in theater.

“When it comes to going to war, we are the troops who make sure this exhaust system is right the first time,” Sergeant Dingus said. “Each one of us who work here has played a big part in the jet’s quarter-of-a-century history. There are only four of us, yet we have a large amount of work to do. It’s a small group of people who fit into the big overall picture.”

Along with servicing the exhaust system, the ESM section branches out during times of deployment. Sergeant Dingus said inspecting the aircraft’s platypus deck was only one of the crucial missions tasked to the 49th MXS needed to be accomplished during times of war.

“We also assist in crash recovery, pick up drag chutes off the runway and help perform end-of-runway inspections – after all of this, we then inspect the jet’s exhaust area,” he said.

Sergeant Dingus went on to add that during Operation Iraqi Freedom, ESM troops completed two major inspections approximately 48 hours ahead of time, increasing the aircraft’s capability rate.

Sergeant Boffman said that with all the stealth technology incorporated into the Nighthawk, the aircraft would be useless without its maintained exhaust setup.

“The ESM shop is comprised of troops who do a unique mission the rest of the base can’t do,” he said. “They are truly masters at what they do at the tail end of the aircraft. The Air Force can apply all the RAM they want, but if the exhaust shop doesn’t do the job right, the jet can get shot and go down.”



Senior Airman Billy Turner, 49th Maintenance Squadron ESM technician, braces a new vapor boot while applying it around the engine’s exhaust seal.



ESM technicians Staff Sgts. Jonathan Dingus applies the primary heat shield to the right platypus deck while Senior Airman Conrado Tavizon Jr., 49th Maintenance Squadron ESM technician, observes.